CLAIMS

1°) Coupling process between a peptide and at least one compound A, of a non-peptidic nature, bearing a function selected from the group constituted by the carboxylic acid functions and the alcohol functions, characterized in that said coupling includes a step of producing, in solution, a hydrazide link between said peptide and said compound A.

2°) Coupling process according to claim 1, characterized in that it includes, for producing said hydrazide link, the following steps:

a) activation of the function borne by said compound A into a corresponding reactive function, selected respectively from the group formed by the ester functions and the carbonate functions, when compound A bears, respectively, a carboxylic acid function and an alcohol function; and

b) reaction, in solution and at a pH of less than 6, between said compound A activated obtained in a) and a peptide, that is completely deprotected, bearing at least one hydrazine or hydrazine derivative group, either at its N-terminal end or at the end of the side chain of a lysine or of an ornithin possibly present at some point in the peptide sequence.

3°) Process according to claim 2, characterized in that it further includes a step c) of purification of the modified peptide obtained in step b).

4°) Process according to claim 2 or claim 3, characterized in that, after step a) of activation of the function borne by compound A, the corresponding reactive function borne by compound A is selected from the group constituted by succinimidyl, sulfosuccinimidyl and aryl esters and carbonates.

5°) Process according to any one of claims 2 to 4, characterized by the fact that said hydrazine derivative group borne by the peptide is an α-hydrazinoacetic group.

6°) Process according to claim 5, characterized in that, prior to step b), said peptide is functionalized by an α-hydrazinoacetic group, either at its N-terminal end or at the end of the side chain of a lysine or of an ornithin possibly present at some point in the peptide sequence, with the help of N,N'-tri(Boc)hydrazinoacetic acid or of N,N'-di(Boc)hydrazinoacetic acid.

7°) Process according to claim 6, characterized in that the functionalization of said peptide with an α-hydrazinoacetic group is followed by a step of purification of said functionalized peptide using high-performance liquid

chromatography, with the help of an eluent constituted by a water/alcohol mixture, preferably a water / isopropanol mixture, including trifluoroacetic acid.

8°) Process according to any one of the preceding claims, characterized in that said compound A is selected from the group constituted by lipids, sugars, alcohols and fluorescence markers.

9°) Process according to claim 8, characterized in that said lipids are selected from the group constituted by saturated fatty acids, unsaturated fatty acids and sterols.

10°) Process according to claim 9, characterized in that said lipids are selected from the group constituted by palmitic acid, stearic acid, cis-9,10-epoxystearic acid, oleic acid, linoleic acid and cholesterol.

11°) Modified peptide, characterized in that it is essentially constituted by a peptide linked, by a hydrazide link, to at least one compound A bearing, before its link to said peptide, a function selected from the group constituted by the carboxylic acid functions and the alcohol functions.

12°) Modified peptide according to claim 11, characterized in that it is essentially constituted by a peptide linked, by a hydrazide link, to at least one compound selected from the group constituted by lipids, sugars, alcohols and fluorescence markers.

13°) Modified peptide according to claim 12, characterized in that it is an oligopeptide essentially constituted by a peptide linked, by a hydrazide link, to at least one lipid selected from the group constituted by saturated fatty acids, unsaturated fatty acids and sterols.

14°) Modified peptide according to claim 13, characterized in that it is an oligopeptide essentially constituted by a peptide linked, by a hydrazide link, to at least one lipid selected from the group constituted by palmitic acid, stearic acid, cis-9,10-epoxystearic acid, oleic acid, linoleic acid and cholesterol.

15°) Synthetic vaccine, characterized in that it includes at least one modified peptide according to any one of claims 11 to 14.

16°) Diagnosis reagent, characterized in that it includes at least one modified peptide according to any one of claims 11 to 14.

17°) Use of the process according to any one of claims 1 to 10 for the preparation of a medicament including an active principal of a vectorized peptidic nature, useful for cell targeting.

18°) Use of N,N'-tri(Boc)hydrazinoacetic acid or of N,N'-di(Boc)hydrazinoacetic acid for functionalizing a peptide with an α-hydrazinoacetic.